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# NAVAL AIR ENGINEERING CENTER

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From: Commanding Officer, Naval Air Engineering Center, Phila., Pa. 19112  
To: Commander, Naval Air Systems Command (AIR 520331)

Subj: Assignment 2-21(13H) Cresol, Substitution for in Cleaning Compound Formulations in Specifications; Report No. NAEC AML 2504, Detoxication and Disposal of Cresol-Containing Waste from Cleaning Operations

Ref: (a) NAVAIRSYSCOMHQ AIRTASK AIR320 013 200/1 FO20 03 01 of 15 Oct 1963  
(b) Military Specification MIL C-19853A(WEP) Carbon Removing Compounds; Agitated Tank  
(c) Military Specification MIL-R-18553A(WEP) Remover, Paint, Non-flammable, Water Rinsable, Usable in Contact with Synthetic Rubber

1. The subject assignment was established under reference (a) to provide efficient cleaning compounds which are cresol-free. Several of the cleaning compounds used by the field activities engaged in maintenance and overhaul work contained cresol, or other phenolic compounds as ingredients in their formulations. Elimination of ingredients of this type was considered necessary since their biocidal properties made their ultimate discharge into sewage systems objectionable.
2. The elimination of cresol from various specification items has been covered by partial reports previously issued under this assignment. However, its elimination from all cleaning compound formulations has not been accomplished as, for example, the widely used carbon remover procured under the reference (b) specification. Although neither industry nor the Aeronautical Materials Laboratory has been able to develop a cresol-free material equal to the reference (b) material in performance, it is felt that effective substitute materials may be discovered in the investigation of new chemical materials authorized by assignment 2-04(13H).
3. Until such a time as cresol and other phenolic compounds have been totally eliminated, it is felt that the minimal amounts of these materials remaining in use can be rendered safe for disposal by suitable pretreatment. Although the development of the equipment involved is outside the scope of this assignment, investigations have revealed that adequate pretreatment could be economically

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accomplished by either of the two processes currently used by industry. These consist of removing the cresols by steam stripping and recovery for future use, or by acidification and disposal of the cresol-bearing layer by burning. Much of the necessary equipment such as reservoirs, tanks, filters, valves, pumps, may be found idle in the storage areas of any large installation.

4. Authorized work on the subject problem assignment has been completed. This report is final and the assignment is considered closed.



R. L. ABBOTT  
By direction

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Unclassified

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Philadelphia, Pa. 19112

2a. REPORT SECURITY CLASSIFICATION  
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2b. GROUP

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AUTHOR(S) (Last name, first name, initial)

Atuska, S. A.

REPORT DATE

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Assignment 2-21(13H) under  
NAVAIRSYSCOM A320 013 200/1  
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9b. OTHER REPORT NO(S) (Any other numbers that may be assigned  
this report)

AVAILABILITY/LIMITATION NOTICES

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SUPPLEMENTARY NOTES

12. SPONSORING MILITARY ACTIVITY

Naval Air Systems Command  
Department of the Navy  
Washington, D. C. 20360

ABSTRACT

Assignment 2-21 was established to provide efficient cleaning compounds which are cresol-free. Elimination of ingredients of this type was considered necessary since their biocidal properties made their ultimate discharge into sewage systems objectionable. Although neither industry nor the Aeronautical Materials Laboratory has been able to develop a cresol-free material equal to the specification MIL-C-19853A(WP) material in performance, it is felt that effective substitute materials may be discovered in the investigation of new chemical materials authorized by Assignment 2-04(13H).

## Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
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